



April 8, 2016

Mr. Roxie Voran, P.G.
Kleinfelder
12000 Aerospace Avenue, Suite 450
Houston, Texas 77034
Email: RVoran@kleinfelder.com

RE: Asbestos & Lead-Based Paint Testing
Texas Parks and Wildlife Department (TPWD)
Goliad State Park / Visitor Center, Custodian Cottage Building
108 Park Road 6
Goliad, Texas 77963
HES Project No. **16-146-9018**

Dear Mr. Voran:

In accordance with your request, Honesty Environmental Services, Inc. (HES), has performed asbestos and lead-based paint testing at the above referenced project.

The results of this testing, performed on March 30, 2016, can be found in the accompanying report.

Asbestos was not detected above the regulatory level of 1% in any of the samples collected from the facility.

Lead was detected above the regulatory level of **1.0 mg/cm²** in samples collected from the main door, door leading to patio, and screen doors at the facility.

We appreciate this opportunity to provide professional services for this project. If we can be of further assistance or if you have any questions concerning this report, please do not hesitate to call.

Respectfully Submitted,
Honesty Environmental Services, Inc.

Sean Porter
Project Manager

Kamal Hussein
Executive Vice President

Enclosures

**ASBESTOS & LEAD-BASED PAINT
INSPECTION REPORT**

**Goliad State Park
Custodian Cottage Building
108 Park Road 6
Goliad, Texas 77963**

Prepared for:

**Texas Parks and Wildlife Department (TPWD)
c/o Kleinfelder
12000 Aerospace Avenue, Suite 450
Houston, Texas 77034**

HES Project Number: 16-147-9018

April 8, 2016



Honesty Environmental Services, Inc.

ASBESTOS & LEAD-BASED PAINT INSPECTION REPORT

For:

Goliad State Park
Custodian Cottage Building
108 Park Road 6
Goliad, Texas 77963

Prepared For:

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12000 Aerospace Avenue, Suite 450
Houston, Texas 77034

Prepared By:

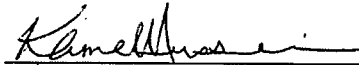
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Asbestos Consultant Agency
DSHS License No. 10-0182

Lead Firm
DSHS License No. 2110156

HES Project No. 16-146-9018

April 8, 2016



Kamal Hussein

DSHS Licensed Asbestos Consultant 105369



Sean Porter

DSHS Licensed Lead Inspector 2060810

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GLOSSARY

- Glossary of Terms (Asbestos)
- Glossary of Terms (Lead)

Honesty Environmental Services, Inc. (HES) was retained by Kleinfelder on behalf of the Texas Parks and Wildlife Department (TPWD) to conduct asbestos and lead-based paint testing at the Custodian Cottage Building, New Public Restroom Building, and the Gate Portal of the Goliad State Park located at 108 Park Road 6 in Goliad, Texas.

Mr. Kamal Hussein and Mr. Sean Porter conducted the testing on March 30, 2016. A brief summary of findings is contained in the following paragraphs.

- * **Asbestos was not detected above the regulatory level of 1% in samples collected at the site.**
- * **X-ray Fluorescence (XRF) test results showed concentrations of lead above the regulatory level of 1.0 mg/cm² on the following components tested at the site:**
 - **Main Door to Cottage (Brown Wood);**
 - **Door Leading to Patio (Brown Wood);**
 - **Screen Doors, 2 each (Brown Wood); and**
 - **Side Entry Door to Cottage (White Wood).**

This report should be read in its entirety, including detailed information which is contained in other sections and appendices.

A complete summary of the test results is included in the Appendix of this report.

2.1 GENERAL INFORMATION

The testing was performed at the Custodian Cottage Building of the Goliad State Park located at 108 Park Road 6 in Goliad, Texas.

Many building materials contain asbestos. If disturbed, the asbestos fibers may become airborne and create a health hazard. The risk of accidental exposure to asbestos fibers is diminished if the asbestos containing material (ACM) is identified.

In 1978, the Consumer Product Safety Commission banned the sale of lead-based paint (LBP) to consumers, and its application to areas where consumers have direct access to painted surfaces. As a result of this ban, buildings painted prior to 1978 are suspected of containing leaded paint.

2.2 AUTHORIZATION

Authorization to perform this testing was given in the form of Work Order under a sub-contract agreement with Kleinfelder.

2.3 PURPOSE

The purpose of the asbestos sampling was to provide general information for this facility regarding the presence of accessible and/or exposed building materials which commonly contain asbestos. Materials which contain more than one percent (1%) asbestos are considered to be ACM by Federal and State Regulations.

The purpose of the lead-based paint testing was to identify painted surfaces or other surface coatings which contain lead in excess of 1.0 mg/cm². The Texas Department of State Health Services (DSHS) and the U.S. Department of Housing and Urban Development (HUD) regulations consider a lead content of 1.0 mg/cm² (by XRF) to be the level at which a hazard exists.

2.4 WARRANTY

The information contained in this report is based upon the data furnished by the Client and observations and test results provided by HES. These observations and results are time dependent, are subject to changing site conditions, and revisions to Federal, state, and local regulations.

HES warrants that these findings have been promulgated after being prepared in accordance with generally accepted practices in the asbestos and lead-based paint testing and abatement industry.

No other warranties are implied or expressed.

Changes in the state of the art or in applicable regulations cannot be anticipated and have not been addressed in this report.

The survey and analytical methods have been used to provide the client with information regarding the presence of accessible and/or exposed suspect lead coatings and asbestos-containing building material existing in the building at the time of inspection. Test results are valid only for the material tested. There is a distinct possibility that conditions may exist which could not be identified within the scope of the study or which were not apparent during the site visit. This inspection covered only those areas which were exposed and/or physically accessible to the inspector.

HES also recognizes that raw XRF and laboratory test data are usually not sufficient to make all abatement and management decisions and recommends that HES be afforded an opportunity to review abatement specifications so test results may be properly interpreted and implemented.

This report has been prepared for the exclusive use of the Client for the building located at 108 Park Road 6 in Goliad, Texas. It is not intended for the use or benefit of any other party.

The scope of services requested by the Client included the performance of field and laboratory testing programs, and the preparation of a report detailing where and at what concentrations asbestos and lead were found.

The visual inspection and asbestos sampling were conducted in general accordance with EPA/AHERA guidelines to determine the presence of asbestos in suspect ACM which were accessible and/or exposed in the facility. Bulk samples obtained from the facility were delivered to the laboratory for analysis for asbestos using Polarized Light Microscopy (PLM) with dispersion staining. The results of this analysis are summarized in the findings of this report and Appendix 1.

The visual inspection and testing for lead-based paint was performed on the facility in general accordance with the Texas Department of Health's Environmental Lead Reduction Rules (Feb. 1996).

Spreadsheets containing a summary of results by building component and data tables for tested areas are included in Appendix 2 of this report. Individual test spots are listed in the data tables, including but not limited to a unique sample number, paint color, substrate type, a description of the building component, location, and the test value in mg/cm².

Bulk sampling was performed on building components which were randomly selected based on color, substrate, and paint history.

Newly uncovered materials or materials that are similar to previously identified LBP or ACM should be assumed to be lead or asbestos-containing until testing proves otherwise.

4.1 FIELD SURVEY - ASBESTOS

Inspection Procedures

The asbestos sampling was performed by an EPA accredited and DSHS Licensed inspector. An initial building walk-through was conducted to determine the presence of suspect materials which were accessible and/or exposed in the building. Materials which were similar in general appearance were grouped into homogeneous sampling areas.

Sampling Procedures

Following the walk-through, the inspector collected samples of selected materials identified as suspect ACM. Sampling was limited to those materials which were accessible and did not involve destruction of walls, other building elements, physical barriers, or the structural integrity of the item being tested.

EPA guidelines were used to determine the sampling protocol. Sampling locations were chosen to be representative of the homogeneous sampling area. While an effort was made to collect samples randomly, samples were taken preferentially from previously damaged areas or areas which were the least visible to minimize noticeable damage to the material.

Inaccessible materials in locations such as pipe chases and behind walls, and any other materials which were not evaluated in this survey should be tested if they are uncovered during renovation or other operations which may disturb them. Newly uncovered materials or materials that are similar to previously identified ACM should be assumed to be asbestos-containing until testing proves otherwise.

The building that was surveyed was the Custodian Cottage Building located at the Goliad State Park at 108 Park Road 6 in Goliad, Texas.

The site consisted of a one story building constructed of wood frame on a concrete slab, exterior wood walls, interior plaster walls and 1'x1' ceiling panels. After each sample was extracted, a spray encapsulant and/or tape covering was applied to the sampled area to prevent potential fiber release.

Method of Analysis

Analysis was performed by using the bulk sample for visual observation and slide preparations for microscopic examination and identification. The samples were mounted on slides and then analyzed for asbestos (chrysotile, amosite, crocidolite, anthophyllite and actinolite/tremolite), and fibrous non-asbestos constituents (mineral wool, paper, etc.) and non-fibrous constituents.

Asbestos is identified by Polarized Light Microscopy in accordance with USEPA Guidelines (EPA/600/R-93/116). The same method was used to identify the non-asbestos constituents. The microscopist visually estimated relative amounts of each constituent by determining the volume of each constituent in proportion to the total volume of the sample, using a stereoscope.

4.2 FIELD SURVEY - LEAD-BASED PAINT

XRF field testing was performed with the NITON XL Model 306A manufactured by NITON Corporation. The use of a portable, non-destructive testing device is advantageous when numerous tests must be performed because of its brief testing time and relatively low cost compared to laboratory methods.

XRF test data, including calibration checks against standards, were recorded on an inspection worksheet to generate a permanent record of the field findings.

XRF values are collected by placing the scanner on the test surface and exposing the paint film to gamma radiation. XRF analyzers are usually capable of penetrating more than 20 layers of paint to determine lead content. At the conclusion of each test, the shutter is closed and the display on the control console shows the lead concentration in mg/cm² for tabulation.

The accuracy and precision of any measurement is determined by the length of each test, instrument calibration checks against known standards or control blocks, measurement conditions, and mathematical laws of random error. Even when XRF equipment is properly operated within the manufacturer's specification, unusual substrates, paint additives, uneven paint applications, electrical fields, lead components in wall cavities, and other variables may cause fluctuations in apparent test values. Due to the limitations associated with XRF field testing, confirmation testing or assessment of XRF data is recommended before major abatement activities are started.

Lead analysis results can be generally categorized as follows:

>1.0 mg/cm², 0.5% by weight
or 5,000 ppm

Lead Present - Health Hazard, as defined by applicable
Federal and State Regulations. Abatement Priority.

<1.0 mg/cm² or 0.5% by weight
or 5,000 ppm

Lead present - No Action Necessary when lead levels are
below applicable Federal and State Regulation Action
Levels. OSHA regulations may apply to workers during
Demolition or Renovation.

Where states or local jurisdictions adopt standards different from the Federal guidelines,
the more stringent rules apply.

See Appendix 2 for a complete listing of the area data tables for the site.

5.1 ASBESTOS CONTAINING MATERIALS

A material is considered by the EPA to be asbestos containing if at least one sample collected from the area shows asbestos present in an amount greater than one percent (>1%).

Asbestos was not detected in any of the samples collected from the building materials. Suspect materials from which samples were collected were assessed in general accordance with the Asbestos Hazard Categorization list. The location and quantity of the material, the type and extent of damage, accessibility of the material, potential for disturbance, and exposure to air movement, vibration, and water were considered in the assessment.

Based on the described conditions and laboratory analysis results, materials which were sampled were classified into one of the following categories:

Asbestos Hazard Categorization List:

- | | | |
|------------|---------------------------|---|
| C-1 | Asbestos Present - | Serious Health Hazard, as defined by EPA
Abatement should be top priority |
| C-2 | Asbestos Present - | Health Hazard, as defined by EPA
Abatement should be planned |
| C-3 | Asbestos Present - | No Action Necessary Unless Renovation
Remodeling, or Demolition is Planned |
| B-1 | Asbestos Present - | Contains 1% asbestos, or less, Not Regulated
by DSHS |
| B-2 | Asbestos Present - | Adequately Enclosed |
| B-3 | Asbestos Present - | Adequately Encapsulated |
| A | No Asbestos Found | |
| A-1 | Asbestos Abated - | Once Identified Asbestos Containing Materials
have been abated. |

The **Response Action Options** for asbestos-containing materials are listed as follows:

Operations and Maintenance

The materials are maintained in an undamaged condition and monitored so that the potential for disturbance is minimized. Implementation of an Operations and Maintenance (O & M) Plan involves repair or removal of damaged materials, record keeping, worker training, inspections and air monitoring.

Encapsulation

Surfaces of the ACM are sealed with a bridging-type encapsulant or the ACM is rendered non-friable with a penetrating type encapsulant. The material is disturbed during application of this method therefore a controlled work area is required.

Enclosure

The materials are isolated behind air-tight barriers such as gypboard or plywood walls so that they are inaccessible to building occupants. A controlled work area is required for this method so that asbestos does not contaminate the building.

Removal

ACM is removed and properly disposed of by a licensed abatement contractor under asbestos control conditions.

5.2 ASBESTOS HAZARD CATEGORIZATION

The following table lists the Asbestos Hazard Categorization, recommended response action, and abatement cost estimate for the materials identified in the survey.

Material	Location	Hazard Category	Recommended Response Action	Estimated Quantity
N/A	N/A	N/A	N/A	N/A

Note:

Certain materials such as piping, and multiple layered ceiling applications and floor coverings may not be not totally visible due to their location behind other materials. Quantities of such materials may be estimated.

The laboratory analysis results are included in this report as Appendix 1.

5.3 LEAD-BASED PAINT

The maximum legal lead content of paint is 0.009% or 90 ppm according to the Consumer Product Safety Commission (CPSC). The EPA and HUD regulations consider a lead content of 5,000 ppm (0.5%) or 1.0 mg/cm² to be the level at which a hazard exists.

XRF test results did show concentrations of lead above the regulatory level of 1.0 mg/cm² on components tested at the site.

Paint coatings in the building that are similar to the identified lead-based paints should be assumed to contain lead unless testing proves otherwise.

See Appendix 2 for a complete listing of the samples and laboratory results for the site.

5.4 LEAD HAZARD CATEGORIZATION AND RESPONSE ACTION

The following table lists the Lead Hazard Categorization and recommended response action for the Lead Based Paint containing materials identified in the survey.

Room	Component	Color	Substrate	Hazard Category	Recommended Response Action
Entry	Door	Brown	Wood	C-1	Paint Stabilization
Patio	Door	Brown	Wood	C-1	Paint Stabilization
Patio	Screen Doors	Brown	Wood	C-1	Paint Stabilization
Side	Door	White	Wood	C-1	Paint Stabilization

LEAD HAZARD CATEGORIZATION

C-1 Lead Present - Health Hazard, as defined by applicable Federal and State Regulations. ($\geq 5,000$ ppm or 0.5% by weight or 1 mg/cm²)

C-2 Lead present - Low Hazard - lead levels are below applicable Federal and State Regulation Action Levels. OSHA regulations may apply to workers during Demolition or Renovation. ($< 5,000$ ppm or 0.5% by weight or 1 mg/cm²).

RECOMMENDED RESPONSE ACTION

Interim Controls – Interim controls temporarily reduce exposure to lead-based paint hazards through repairs, painting, maintenance, special cleaning, occupant protection measures, clearance, and education programs. Interim control methods require safe practices and include:

Paint stabilization – all deteriorated lead-based paint on exterior and interior surfaces must be stabilized through repairs, safe paint removal and repainting.

Treatment for friction and impact surfaces – If abraded lead-based paint is found and associated dust lead levels exceed or are presumed to exceed acceptable levels, the condition creating friction or impact with surfaces with lead-based paint such as those that rub, bind, or crush must be corrected.

Treatment for chewable surfaces – If a child under age six has chewed surfaces know or presumed to contain lead-based paint, these surfaces must be enclosed or coated so they are impenetrable.

Abatement – Abatement permanently removes or controls lead-based paint and lead-based paint hazards by removing lead-based paint and its dust, or permanently encapsulation or enclosing the lead-based paint, replacing components with lead-based paint and removing or permanently covering lead contaminated soil. Encapsulation and enclosure require ongoing maintenance to check their effectiveness.

APPENDICES

APPENDIX 1. - ASBESTOS ANALYSIS RESULTS

APPENDIX 2. - LEAD XRF TEST RESULTS

APPENDIX 3. - PHOTOGRAPHS

APPENDIX 4. - CERTIFICATES

APPENDIX 1
ASBESTOS ANALYSIS RESULTS

ASBESTOS BULK SAMPLE SUMMARY
Custodian Cottage Building
Goliad State Park
108 Park Road 6
Goliad, Texas 77963

HES Project No.: 16-146-9018

Homo- geneous Area #	Sample #	Description/Location	Analysis Result	AHERA Class	Quantity (Approx.)
1	01	A/C White Duct Mastic/ Attic Space	N.D.	---	---
	02	A/C White Duct Mastic/ Attic Space	N.D.		
	03	A/C White Duct Mastic/ Attic Space	N.D.		
2	04	Window caulk / Brown, exterior windows	N.D.	---	---
	05	Window caulk / Brown, exterior windows	N.D.		
	06	Window caulk / Brown, exterior windows	N.D.		
3	07	Plaster walls / White, Meeting room	N.D.	---	---
	08	Plaster walls / White, Kitchen	N.D.		
	09	Plaster walls / White, Bathroom	N.D.		
4	10	12'x12' white ceiling panels / lobby area	N.D.	---	---
	11	12'x12' white ceiling panels / Manager's Office	N.D.		
	12	12'x12' white ceiling panels / Bedroom	N.D.		
5	13	Window header caulk / exterior windows	N.D.	---	---
	14	Window header caulk / exterior windows	N.D.		
	15	Window header caulk / exterior windows	N.D.		
6	16	Roofing mastic	N.D.	---	---
	17	Roofing mastic	N.D.		
	18	Roofing mastic	N.D.		
7	19	Composition shingles on wall at public restroom building	N.D.	---	---
	20	Composition shingles on wall at public restroom building	N.D.		
	21	Composition shingles on wall at public restroom building	N.D.		

Note: N.D. = Asbestos was Not Detected
Chry. = Chrysotile Asbestos was detected

J3 Resources, Inc.

6110 W. 34th Street, Houston, Texas 77092

Phone: (713) 290-0221 - Fax: (713) 290-0248

J3Resources.com

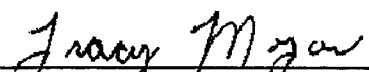
**Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)****EPA 600/M4-82-020; 600/R-93/116**


Theresa Schuyler
Honesty Environmental Services, Inc.
6741 B Satsuma Drive
Houston TX 77041

J3 Order #: JH1673158
Project #: 16-146-9018
Date Received: 31-Mar-2016
Date Analyzed: 04-Apr-2016
Date Reported: 04-Apr-2016

Goliad Park

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	
01	Caulking, Off White, Homogeneous	None Detected	Cellulose Fiber Non-Fibrous Material	<1% 100%
02	Caulking, Off White, Homogeneous	None Detected	Cellulose Fiber Non-Fibrous Material	<1% 100%
03	Caulking, Off White, Homogeneous	None Detected	Cellulose Fiber Non-Fibrous Material	<1% 100%
04	Painted Caulk, Brown/ White, Homogeneous	None Detected	Non-Fibrous Material	100%
05	Painted Caulk, Brown/ White, Homogeneous	None Detected	Non-Fibrous Material	100%
06	Painted Caulk, Brown/ White, Homogeneous	None Detected	Non-Fibrous Material	100%
07	Plaster, Gray, Homogeneous	None Detected	Non-Fibrous Material	100%
08	Plaster, Gray, Homogeneous	None Detected	Non-Fibrous Material	100%
09	Plaster, Gray, Homogeneous	None Detected	Non-Fibrous Material	100%
10	Styrofoam, White, Homogeneous	None Detected	Non-Fibrous Material	100%
11	Styrofoam, White, Homogeneous	None Detected	Non-Fibrous Material	100%


Tracy Morgan Analyst


Lee W. Poye Lab Director

This report relates only to the materials tested. This report is for the exclusive use of the addressed client and shall not be reproduced except in full, without written approval by J3 Resources, Inc. (J3). Samples are analyzed according to the methods listed above and are subject to the inherent limitations of PLM and interference of matrix components. Reporting limit for the above method is a function of the quantity of sample analyzed, matrix interference, sample preparation, fiber size, and distribution. Asbestos may be detected in concentrations of <1% by area if sufficient material is analyzed. J3 recommends TEM confirmation of soils, vermiculite and non-friable organically bound materials (NOB) reported as None Detected or < 1% Asbestos by PLM. All samples received in good condition unless otherwise noted. This report shall not be used to claim product approval, certification, or endorsement by NVLAP, NIST, or any agency of the federal government.

NVLAP Lab Code: 200525-0; AIHA Lab ID: 157714; TDSHS License: 30-0273

Page 1 of 3

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Phone: (713) 290-0221 - Fax: (713) 290-0248

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**Bulk Asbestos Fiber Analysis by Polarized Light Microscopy (PLM)****EPA 600/M4-82-020; 600/R-93/116**

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Honesty Environmental Services, Inc.
6741 B Satsuma Drive
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J3 Order #: JH1673158
Project #: 16-146-9018
Date Received: 31-Mar-2016
Date Analyzed: 04-Apr-2016
Date Reported: 04-Apr-2016

Goliad Park

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents	
12	Styrofoam, White, Homogeneous	None Detected	Non-Fibrous Material	100%
13	LAYER 1 Caulk, White, Homogeneous	None Detected	Non-Fibrous Material	100%
	LAYER 2 Plaster, White, Homogeneous	None Detected	Non-Fibrous Material	100%
14	LAYER 1 Caulk, White, Homogeneous	None Detected	Non-Fibrous Material	100%
	LAYER 2 Plaster, White, Homogeneous	None Detected	Non-Fibrous Material	100%
15	LAYER 1 Caulk, White, Homogeneous	None Detected	Non-Fibrous Material	100%
	LAYER 2 Plaster, White, Homogeneous	None Detected	Non-Fibrous Material	100%
16	Caulking, Gray, Homogeneous	None Detected	Non-Fibrous Material	100%
17	Caulking, Gray, Homogeneous	None Detected	Non-Fibrous Material	100%
18	Caulking, Gray, Homogeneous	None Detected	Non-Fibrous Material	100%
19	Roof Shingle, Tan/ Black, Homogeneous	None Detected	Cellulose Fiber Non-Fibrous Material	30% 70%
20	Roof Shingle, Tan/ Black, Homogeneous	None Detected	Cellulose Fiber Non-Fibrous Material	30% 70%

Tracy Morgan Analyst

Lee W. Poye Lab Director

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Page 2 of 3

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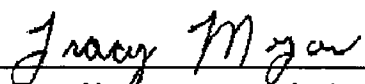
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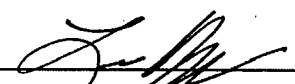
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J3 Order #: JH1673158
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Date Received: 31-Mar-2016
Date Analyzed: 04-Apr-2016
Date Reported: 04-Apr-2016

Goliad Park

Sample ID #	Sample Description	Asbestos Constituents	Non-Asbestos Constituents
21	Roof Shingle, Tan/ Black, Homogeneous	None Detected	Cellulose Fiber 30% Non-Fibrous Material 70%


Tracy Morgan Analyst


Lee W. Poye Lab Director

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NVLAP Lab Code: 200525-0; AIHA Lab ID: 157714; TDSHS License: 30-0273

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IH CHAIN OF CUSTODY



J3 Order # (Lab use only)
73158

Submitter Name: <u>SEAN PORTER</u>		Bill to: <u>SAME</u>	
Company: <u>HCS INC.</u>		Address: _____	
Address: <u>6741 B SATSUMA</u>		City/State: _____ Zip: _____	
City/State: <u>HOUSTON TX</u> Zip: <u>77041</u>		PO #: _____	
Project Information			
Project Name: <u>GOLIAD PARK</u>		Project Manager: _____	
Project #: <u>16 146 9018</u>		Telephone - Office/Cell: _____	
Reports - Email Address: _____			
Invoice - Email Address: _____		Notification By: Email: <input type="checkbox"/> Verbal: <input type="checkbox"/> Text: <input type="checkbox"/>	
Special Instructions: _____			
Turnaround Times - Please Select One			
Emergency* <input type="checkbox"/>	1 Day <input type="checkbox"/>	2 Day <input type="checkbox"/>	3 Day <input checked="" type="checkbox"/>
ASBESTOS			
PLM - Bulk	PCM - Air	TEM - Air	TEM - Bulk
EPA 600/R-93/116 <input checked="" type="checkbox"/> Visual Estimation (<1%) <input type="checkbox"/> 400 Point Count 0.25% <input type="checkbox"/> 1,000 Point Count 0.1% <input type="checkbox"/> Gravimetric Reduction <input type="checkbox"/> Matrix Reduction (+/-) <input type="checkbox"/> NIOSH 9002 <input type="checkbox"/> OSHA ID-191	<input type="checkbox"/> NIOSH 7400 <input type="checkbox"/> ASTM D7201 <input type="checkbox"/> ISO 8672 <input type="checkbox"/> OSHA ID-160	<input type="checkbox"/> AHERA <input type="checkbox"/> NIOSH 7402 <input type="checkbox"/> ASTM D6281 <input type="checkbox"/> ISO 10312 <input type="checkbox"/> ISO 13794	<input type="checkbox"/> Gravimetric Reduction (<1%) <input type="checkbox"/> Matrix Reduction (+/-) <input type="checkbox"/> Qualitative (+/-) <input type="checkbox"/> Drop Mount <input type="checkbox"/> Filtration
TEM - Water	TEM - Dust	TEM/PLM Soil/Vermiculite/Ore	
<input type="checkbox"/> EPA 100.2 Drinking Water <input type="checkbox"/> >10 µm fibers <input type="checkbox"/> ≥0.5 µm fibers <input type="checkbox"/> EPA 100.2 Effluent / WW	<input type="checkbox"/> ASTM D5755 Microvac <input type="checkbox"/> ASTM D6480 Wipe <input type="checkbox"/> 600/J-93/167 Carpet - EPA <input type="checkbox"/> Bulk Dust Qualitative	<input type="checkbox"/> ASTM 7521-TEM (+/-) <input type="checkbox"/> ASTM 7521-TEM (<1%) <input type="checkbox"/> CARB 435-Modified <input type="checkbox"/> Soil - PLM Only (+/-) <input type="checkbox"/> Vermiculite - TEM (+/-) <input type="checkbox"/> Vermiculite-Cincinnati <input type="checkbox"/> Erionite ID	
METALS			PARTICULATES
Flame AA	Graphite Furnace AA - LEAD	ICP	Gravimetric
<input type="checkbox"/> Lead in Paint - SW846 7420/3050B <input type="checkbox"/> Lead in Air - NIOSH 7082 <input type="checkbox"/> Lead in Wipes - SW846 7420/3050B <input type="checkbox"/> Lead in Soil - SW846 7420/3050B	<input type="checkbox"/> Drinking Water - EPA 200.9 <input type="checkbox"/> Wastewater - SW846-7421 <input type="checkbox"/> Soil/Sludge - SW846-7421 <input type="checkbox"/> Air - NIOSH 7105	<input type="checkbox"/> Elements in Air - NIOSH 7300 <input type="checkbox"/> Wipe/Soil - SW846-6010B <input type="checkbox"/> Effluent - SW846-6010B <input type="checkbox"/> Welding Fume - NIOSH 7300M <input type="checkbox"/> TCLP - SW846-1311/6010B	<input type="checkbox"/> NIOSH 0500 - Total Particulates <input type="checkbox"/> NIOSH 0600 - Respirable Particulates
Total Number of Samples Submitted: <u>21</u>		Positive Stop: <input type="checkbox"/> YES <input type="checkbox"/> NO	
Signatures			
Relinquished By: <u>[Signature]</u>		Date: <u>3-31-16</u> Time: _____	
Received By: <u>[Signature]</u>		Date: <u>3/31/16</u> Time: _____	
Relinquished By: _____		Date: _____ Time: _____	
Received By: _____		Date: _____ Time: _____	

* Emergency TAT requires prior lab notification. All samples analyzed outside normal business hours are charged at Emergency rate.
 **TAT's are in Business Days rather than Hours (i.e. 1 Day TAT = End of Next Business Day)

APPENDIX 2
XRF TEST RESULTS

**Goliad State Park
Custodian Cottage**

Reading No	Time	Type	Units	Component	Substrate	Color	Results	Depth Index	Action Level	PbC	PbL	PbK
475	3/30/2016 12:29	SHUTTER_CAL	cps							3.45	0.67	0.01
476	3/30/2016 13:22	C Calibrate	mg / cm ^2				Positive	1.11	1	1.1	1.1	1.1
477	3/30/2016 13:22	Calibrate	mg / cm ^2				Positive	1.2	1	< LOD	< LOD	< LOD
478	3/30/2016 13:22	Calibrate	mg / cm ^2				Negative	1	1	0.24	0.24	< LOD
479	3/30/2016 13:22	PAINT	mg / cm ^2	Door / Main	Wood	Brown	Positive	2.07	1	1.8	1.8	< LOD
480	3/30/2016 13:23	PAINT	mg / cm ^2	Door Frame	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
481	3/30/2016 13:23	PAINT	mg / cm ^2	Window Frame	Wood	Brown	Negative	1.51	1	< LOD	< LOD	< LOD
482	3/30/2016 13:23	PAINT	mg / cm ^2	Window Guard	Wood	Brown	Negative	1.76	1	< LOD	< LOD	< LOD
483	3/30/2016 13:24	PAINT	mg / cm ^2	Window Frame	Wood	Brown	Negative	1.12	1	< LOD	< LOD	< LOD
484	3/30/2016 13:24	PAINT	mg / cm ^2	Window Frame	Wood	Silver	Negative	1	1	< LOD	< LOD	< LOD
485	3/30/2016 13:24	PAINT	mg / cm ^2	Window	Metal	Brown	Negative	1	1	< LOD	< LOD	< LOD
486	3/30/2016 13:25	PAINT	mg / cm ^2	Down Spout	Metal	Brown	Negative	1	1	< LOD	< LOD	< LOD
487	3/30/2016 13:25	PAINT	mg / cm ^2	Column	Wood	Brown	Negative	1.63	1	< LOD	< LOD	< LOD
488	3/30/2016 13:26	PAINT	mg / cm ^2	Door	Wood	Brown	Negative	1.59	1	< LOD	< LOD	< LOD
489	3/30/2016 13:26	PAINT	mg / cm ^2	Canope Roof	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
490	3/30/2016 13:26	PAINT	mg / cm ^2	Canope Joist	Wood	Brown	Negative	2.17	1	< LOD	< LOD	< LOD
491	3/30/2016 13:27	PAINT	mg / cm ^2	Gate/Patio	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
492	3/30/2016 13:27	PAINT	mg / cm ^2	Door / Patio	Wood	Brown	Positive	1.8	1	1.6	1.6	< LOD
493	3/30/2016 13:27	PAINT	mg / cm ^2	Frame/Patio	Wood	Brown	Negative	1.56	1	< LOD	< LOD	< LOD
494	3/30/2016 13:28	PAINT	mg / cm ^2	Column/Patio	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
495	3/30/2016 13:28	PAINT	mg / cm ^2	Joist	Wood	Brown	Negative	1.54	1	< LOD	< LOD	< LOD
496	3/30/2016 13:28	PAINT	mg / cm ^2	Siding	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
497	3/30/2016 13:29	PAINT	mg / cm ^2	Screen Door	Wood	Brown	Positive	2.03	1	1.2	1.2	1.4
498	3/30/2016 13:29	PAINT	mg / cm ^2	Window Frame	Wood	Brown	Negative	1.52	1	< LOD	< LOD	< LOD
499	3/30/2016 13:29	PAINT	mg / cm ^2	Screen Door	Wood	Brown	Positive	1.91	1	1.6	1.6	< LOD
500	3/30/2016 13:30	PAINT	mg / cm ^2	Siding	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
501	3/30/2016 13:30	PAINT	mg / cm ^2	Joist	Wood	Brown	Negative	1.94	1	< LOD	< LOD	< LOD
502	3/30/2016 13:31	PAINT	mg / cm ^2	Gate/Patio	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
503	3/30/2016 13:32	PAINT	mg / cm ^2	Wall	Wood	Brown	Negative	2.3	1	< LOD	< LOD	< LOD
504	3/30/2016 13:32	PAINT	mg / cm ^2	Paneling	Wood	Tan	Negative	1	1	< LOD	< LOD	< LOD
505	3/30/2016 13:32	PAINT	mg / cm ^2	Paneling	Wood	Tan	Negative	1	1	< LOD	< LOD	< LOD

**Goliad State Park
Custodian Cottage**

Reading No	Time	Type	Units	Component	Substrate	Color	Results	Depth Index	Action Level	PbC	PbL	PbK
506	3/30/2016 13:34	PAINT	mg / cm ^2	Stairs	Wood	Brown	Negative	1.59	1	< LOD	< LOD	< LOD
507	3/30/2016 13:34	PAINT	mg / cm ^2	Wall	Plaster	White	Negative	1.99	1	< LOD	< LOD	< LOD
508	3/30/2016 13:35	PAINT	mg / cm ^2	Wall	Plaster	White	Negative	1.44	1	< LOD	< LOD	< LOD
509	3/30/2016 13:35	PAINT	mg / cm ^2	Door	Wood	Brown	Negative	1.21	1	< LOD	< LOD	< LOD
510	3/30/2016 13:35	PAINT	mg / cm ^2	Side Door	Wood	White	Positive	6.3	1	2	2	< LOD
511	3/30/2016 13:36	PAINT	mg / cm ^2	Cabinet	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
512	3/30/2016 13:36	PAINT	mg / cm ^2	Cabinet	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
513	3/30/2016 13:36	PAINT	mg / cm ^2	Wall	Plaster	White	Negative	3.35	1	< LOD	< LOD	< LOD
514	3/30/2016 13:37	PAINT	mg / cm ^2	Window	Wood	White	Negative	6.38	1	0.8	0.8	0.9
515	3/30/2016 13:37	PAINT	mg / cm ^2	Door	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
516	3/30/2016 13:37	PAINT	mg / cm ^2	Door	Wood	Brown	Negative	1.14	1	< LOD	< LOD	< LOD
517	3/30/2016 13:38	PAINT	mg / cm ^2	Shelving	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
518	3/30/2016 13:38	PAINT	mg / cm ^2	Wall	Plaster	White	Negative	1.28	1	< LOD	< LOD	< LOD
519	3/30/2016 13:39	PAINT	mg / cm ^2	Window	Wood	White	Negative	4.38	1	0.7	0.7	1
520	3/30/2016 13:39	PAINT	mg / cm ^2	Frame	Wood	White	Negative	1	1	< LOD	< LOD	< LOD
521	3/30/2016 13:39	PAINT	mg / cm ^2	Frame	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
522	3/30/2016 13:39	PAINT	mg / cm ^2	Tile	Ceramic	Brown	Negative	1	1	< LOD	< LOD	< LOD
523	3/30/2016 13:40	PAINT	mg / cm ^2	Frame	Wood	Brown	Negative	1	1	< LOD	< LOD	< LOD
524	3/30/2016 13:40	PAINT	mg / cm ^2	Door	Wood	Brown	Negative	2.43	1	< LOD	< LOD	< LOD
525	3/30/2016 13:40	PAINT	mg / cm ^2	Wall	Plaster	White	Negative	1	1	< LOD	< LOD	< LOD
526	3/30/2016 13:41	PAINT	mg / cm ^2	Frame	Wood	White	Negative	1	1	< LOD	< LOD	< LOD
527	3/30/2016 13:41	PAINT	mg / cm ^2	Window	Wood	White	Negative	7.38	1	0.6	0.6	0.8
528	3/30/2016 13:42	PAINT	mg / cm ^2	Tile	Ceramic	White	Negative	3.11	1	< LOD	< LOD	< LOD
529	3/30/2016 13:42	PAINT	mg / cm ^2	Tile	Ceramic	Brown	Negative	1.58	1	< LOD	< LOD	< LOD
530	3/30/2016 13:43	PAINT	mg / cm ^2	Kick Plate	Ceramic	Brown	Negative	1.72	1	< LOD	< LOD	< LOD
531	3/30/2016 13:43	PAINT	mg / cm ^2	Kick Plate	Ceramic	Brown	Negative	1.19	1	< LOD	< LOD	< LOD
532	3/30/2016 13:43	Calibrate	mg / cm ^2	Calibrate			Positive	1.21	1	3.2	3.2	< LOD
533	3/30/2016 13:43	Calibrate	mg / cm ^2	Calibrate			Positive	1.23	1	1.3	1.3	< LOD
534	3/30/2016 13:44	Calibrate	mg / cm ^2	Calibrate			Negative	1.23	1	0.4	0.4	< LOD

APPENDIX 3
PHOTOGRAPHS

**Goliad State Park
Custodian Cottage Building**



Front View of Building



General View of Meeting Room



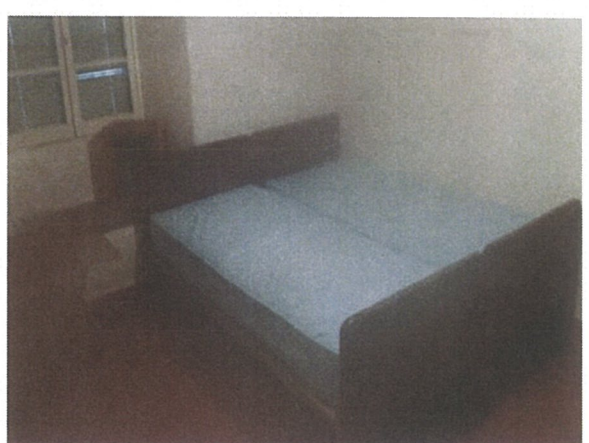
Gate Portal of Building



Entry to Bedroom



View of Shop Area



General view of Bedroom

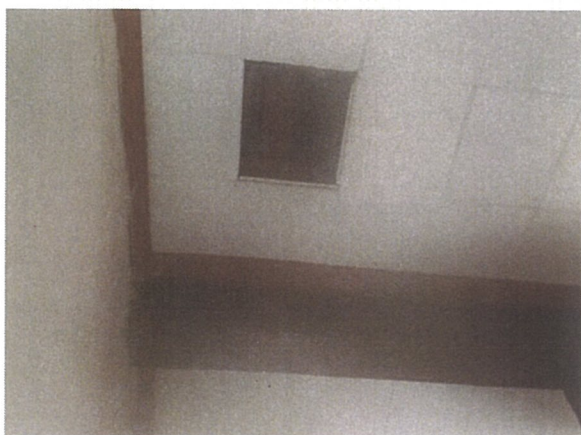
**Goliad State Park
Custodian Cottage Building**



Typical view of ceiling



Kitchen Cabinets / upper



Typical view of ceiling



Manager's Office



Typical view of Bathroom



Office next to Manager's office

**Goliad State Park
Custodian Cottage Building**



Window view



Office next to Manager's office



Wood log stairs to Attic



Kitchen view



Main Door



Kitchen view

**Goliad State Park
Custodian Cottage Building**



Kitchen Cabinets



A/C Ducts in Attic



Stove and Hood



A/C Ducts in Attic



Kitchen cabinets and ceiling



Future Public Restrooms Building

**Goliad State Park
Custodian Cottage Building**



Storage / Future Public Restroom Building



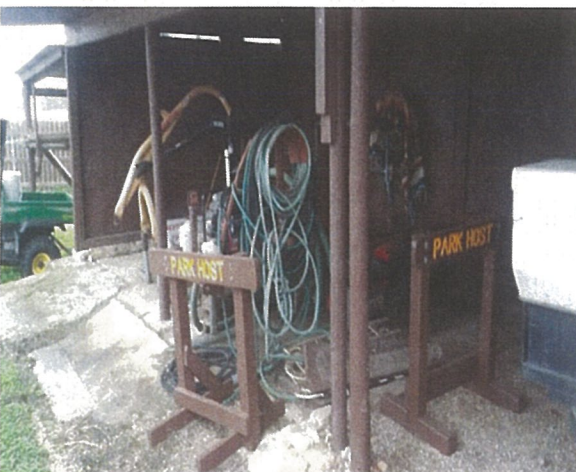
Park Equipment in Yard



Storage / Future Public Restroom Building



View of Patio



Storage / Future Public Restroom Building



Roof shingles at wall in Storage

**Goliad State Park
Custodian Cottage Building**



Window caulking



Door to Patio (LBP)



Window caulking



Front Door (LBP)

APPENDIX 4
CERTIFICATES



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

HONESTY ENVIRONMENTAL SERVICES INC

is certified to perform as a

Asbestos Consultant Agency

in the State of Texas within the purview of Texas Occupations Code, chapter 1954, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

A handwritten signature in cursive script, reading "David Lakey MD".

DAVID LAKEY, M.D.
COMMISSIONER OF HEALTH

License Number: 100182

Control Number: 96799

Expiration Date: 6/28/2017

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Be it known that

HONESTY ENVIRONMENTAL SERVICES INC

is certified to perform as a

Lead Firm

in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295 relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.

A handwritten signature in cursive script, reading "David Lakey MD".

David L. Lakey, M.D.
Commissioner of Health

License Number: 2110156

Control Number 6709

Expiration Date: 7/9/2017

(Void After Expiration Date)



**Texas Department of
State Health Services**

Asbestos Individual Consultant

KAMAL HUSSEIN

License No. 105369

Control No. 96798

Expiration Date: 2/18/2017





TEXAS DEPARTMENT OF STATE HEALTH SERVICES

Be it known that

SEAN M PORTER

is certified to perform as a

Lead Inspector

in the State of Texas and is hereby governed by the rights, privileges and responsibilities set forth in Texas Occupations Code, Chapter 1955 and Title 25, Texas Administrative Code, Chapter 295 relating to Texas Environmental Lead Reduction, as long as this license is not suspended or revoked.

A handwritten signature in black ink, appearing to read "Kirk Cole".

Kirk Cole, Interim
Commissioner of Health

License Number: 2060810

Expiration Date: 9/16/2017

Void After Expiration Date

VOID IF ALTERED

Control Number 6318

NON-TRANSFERABLE

Department of State Health Services certifies that

SEAN M PORTER

is certified as a


Lead Inspector

Certification No: 2060810

Control No: 6318

Expires: 9/16/2017




Kirk Cole, Interim
Commissioner of Health



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

J3 RESOURCES INC

is certified to perform as a

**Asbestos Laboratory
PCM, PLM, TEM**

in the State of Texas within the purview of Texas Occupations Code, chapter 1954, so long as this license is not suspended or revoked and is renewed according to the rules adopted by the Texas Board of Health.

A handwritten signature in cursive script, appearing to read "John Hellerstedt".

JOHN HELLERSTEDT, M.D.
COMMISSIONER OF HEALTH

License Number: 300273

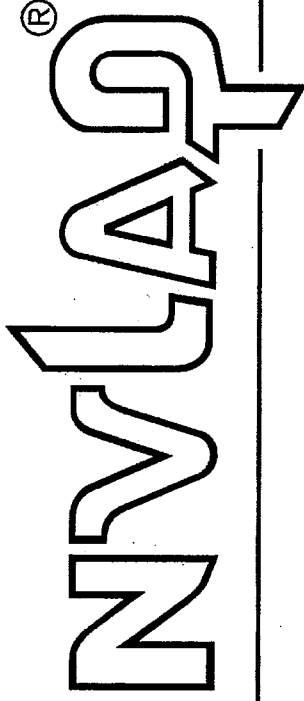
Control Number: 96105

Expiration Date: 3/15/2018

(Void After Expiration Date)

VOID IF ALTERED NON-TRANSFERABLE

United States Department of Commerce
National Institute of Standards and Technology



Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200525-0

J3 Resources, Inc.
Houston, TX

is accredited by the National Voluntary Laboratory Accreditation Program for specific services,
listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

*This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005.
This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality
management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).*

2016-04-01 through 2017-03-31

Effective Dates



David F. Alderman

For the National Voluntary Laboratory Accreditation Program



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

J3 Resources, Inc.
6110 W 34th Street
Houston, TX 77092
Mr. Lee W. Poye III
Phone: 713-290-0221 Fax: 713-290-0248
Email: lpoye@j3resources.com
<http://www.J3Resources.com>

ASBESTOS FIBER ANALYSIS

NVLAP LAB CODE 200525-0

Bulk Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A01	EPA 600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

Airborne Asbestos Analysis

<u>Code</u>	<u>Description</u>
18/A02	U.S. EPA's "Interim Transmission Electron Microscopy Analytical Methods-Mandatory and Nonmandatory-and Mandatory Section to Determine Completion of Response Actions" as found in 40 CFR, Part 763, Subpart E, Appendix A.

David F. Alderman

For the National Voluntary Laboratory Accreditation Program

GLOSSARY

GLOSSARY OF TERMS (ASBESTOS)

ABATEMENT -- Procedures to control fiber release from asbestos containing building materials. Includes encapsulation, enclosure, and removal.

AIR MONITORING -- The process of measuring the fiber content of a specific volume of air in a stated period of time.

AMBIENT EXPOSURE -- Exposure to environmental fiber concentrations, (i.e. the normal concentration of fibers in an area prior to disturbance of asbestos-containing materials).

AMENDED WATER -- Water to which a surfactant has been added to increase its penetrating capabilities.

ASBESTOS -- A defined group of naturally occurring minerals that separate into fibers. There are six asbestos minerals used commercially: chrysotile, amosite, crocidolite, anthophyllite, tremolite, and actinolite.

ASBESTOS-CONTAINING MATERIAL -- Product containing a percentage of asbestos equal to the limits established by the appropriate federal, state or local governing authority.

CONTAINMENT -- Isolation of the work area from the rest of the building to prevent the escape of asbestos fibers.

DECONTAMINATION ENCLOSURE SYSTEM -- A series of connected rooms, with curtained doorways between any two adjacent rooms, for the decontamination of worker or material and equipment. A decontamination enclosure system always contains at least one air lock.

DELAMINATION -- The separation of individual layers of multi-layered building material, such as the delamination of the layers in a sheet of plywood.

ENCAPSULATE -- To surround or penetrate with an adhesive matrix to prevent release of fibers.

ENCLOSURE - An airtight barrier constructed around ACBM to prevent fiber release.

EXPOSURE (HUMAN) -- The presence of people in an area where levels of an airborne contaminant are elevated.

FIBROUS -- Contains or is composed of fibers.

FRIABLE -- Descriptive term referring to material which, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure.

HEPA FILTER -- A High Efficiency Particulate Absolute filter capable of trapping and retaining 99.97% of fibers greater than 0.3 microns in size.

HEPA VACUUM -- A specialized vacuum which uses HEPA filters; the process of using a HEPA vacuum.

HOMOGENEOUS MATERIAL -- Material similar in appearance, color, texture, and date of application.

PEAK EXPOSURE -- Exposure at the time of disturbance to asbestos-containing material which created relatively high fiber concentrations.

PREVALENT LEVELS -- Levels of airborne contaminant occurring during normal conditions.

REMOVAL -- Specified procedures necessary to strip all asbestos materials from the designated areas to dispose of these materials at an acceptable site.

SUBSTRATE -- The substance beneath a finished surface, such as the scratch coat and brown coat under finish plaster.

GLOSSARY OF TERMS (LEAD)

Abatement - a comprehensive process of eliminating exposure or potential exposure to lead paint and lead-containing soil and dust which must include testing, measures for worker protection, containment of dust and debris, cleanup and disposal of waste, and clearance testing.

Action Level - the point at which something needs to be done to correct or eliminate the presence of the hazard (e.g. lead).

Acute Effect - severe or immediate reaction, usually to a single large exposure.

Administrative Removal - is the temporary removal of workers prior to their reaching blood lead levels requiring medical removal in order to provide additional protection to both workers and employers.

Apparent Lead Concentration (ALC) - for direct reading XRFs, is the average of at least 3 XRF single cycle readings on a painted surface. For spectrum analyzers, the ALC is a single reading.

Atomic Absorption - is a method of measuring elements such as lead. The lead is vaporized at high temperature, usually several thousand degrees, and light of a very specific wave-length is shined through the vapor.

Biological Monitoring - is the analysis of person's blood and/or urine, to determine the level of a contaminant, such as lead, in the body.

Blank - a non-exposed sample of the medium used for testing, such as wipe or filter, which is analyzed like other samples to determine whether (1) samples are contaminated with lead before samples are collected (e.g. at the factory, or at the testing site), (2) the samples are contaminated after sample collection (e.g., during transportation to the laboratory or in the laboratory).

CFR - The Code of Federal Regulations - a codification of the regulations of the various Federal Agencies.

Characteristics - EPA has identified four characteristics of a hazardous waste: Ignitability; Corrosivity; Reactivity; and Toxicity. Any solid waste that exhibits one or more of these characteristics is classified as a hazardous waste under RCRA.

Chelation Therapy - the medical treatment in which a drug that is attracted to metals (such as lead) is infused into a patient's vein. The drug binds to the metal in the blood, and both are excreted by the kidney in urine.

Chronic Effect - a response to exposure which may take days, months or years to develop.

Corrected Lead Concentrations, CLC - the difference between the Apparent Lead Concentration (ALC) and the Substrate Equivalent Lead Concentration (SEL).

Common Area - a room or area that is accessible to all residents in a multi-family building (e.g., hallway,

laundry room).

Containment - is a process for protecting the environment by controlling exposures to lead dust and debris created during abatement.

Detection Limit - the minimum amount of a component that a method can reliably measure.

Direct Reading XRF - is an X-Ray Fluorescence analyzer which provides the operator with a display of an estimated lead concentration, usually calculated from the lead "K" x-ray intensity, but sometimes from the "L" x-ray intensity.

dl - stands for "deciliter." The prefix "deci-" means "one-tenth." One deciliter is roughly the same as about one tenth of a quart, or about 3.4 fluid ounces.

Dwelling Unit - refers to the room or group of rooms within a residential premises used or intended for use by one family or household for living, sleeping, cooking and eating. "Dwelling Unit" includes a condominium.

Encapsulation - involves resurfacing or covering surfaces, and sealing or caulking with durable materials, so as to prevent or control chalking, flaking lead-containing substances from becoming part of house dust or accessible to children. Painting or wallpapering is not considered to be encapsulation.

Engineering Controls - are measures implemented at the work site to contain, control and/or otherwise reduce worker exposure to, and environmental releases of, lead dust and debris.

EPA Identification Number - the unique number assigned by EPA to each generator or transporter of hazardous waste, and each treatment, storage, or disposal facility.

Final Inspection - inspection by a qualified inspector, industrial hygienist, or local public health official to determine whether abatement and cleanup are complete.

Generator - any entity who first creates a hazardous waste, or any person who first makes the waste subject to the Subtitle C regulation (e.g., imports a hazardous waste, initiates a shipment of a hazardous waste from a TSD, or mixes hazardous wastes of different DOT shipping descriptions by placing them into a single container).

HEPA or High Efficiency Particle Air Filter - means a filter capable of filtering out particles of 0.3 microns or greater from a body of air at 99.97% efficiency or greater.

High Phosphate Detergent - detergent which contains at least 5% trisodium phosphate (TSP).

In-place Management - a series of recurrent actions to reduce the lead hazard until such time as abatement can be carried out. Usually involves paint stabilization and regular cleaning of the premises.

Intact Surface - refers to a surface with no loose paint.

Landfill - a disposal facility or part of a facility where solid or hazardous waste is placed in or on land and which is not a land treatment facility, a surface impoundment, or an injection well.

Manifest - the shipping document, EPA form 8700-22, used for identifying the quantity, composition, origin, routing, and destination of hazardous waste during its transportation from the point of generation to the point of treatment, storage, or disposal.

Medical Removal - the temporary removal of workers due to elevated blood levels as defined in the OSHA Lead Standard.

Micrograms - one millionth of a gram: The prefix "micro-" means "1/1,000,000 of" (one millionth of). Since there are 453 grams in one pound and 16 ounces in one pound, one gram equals 0.035 ounces. A microgram is equal to about 35/1,000,000,000 (thirty-five billionths) of an ounce.

On-Site Paint Removal - the removal of lead-based paint down to the bare substrate usually through heat, chemical or mechanical means. The affected component remains in-place on the premises during this removal process.

Personal Samples (for sampling lead dust) - air samples collected from within the breathing zone of a worker, but outside the respirator.

Pigments - are chemicals which have color, or properties which affect color.

ppm - stands for "parts per million," meaning the weight of one part per weight of the total amount of material. For example, a lead concentration of 1 ppm expresses the ratio of one gram of lead dissolved into one million (1,000,000) grams of water.

Precision - the degree of variation in a series of successive measurements of the same phenomenon. Commonly measured by standard deviation.

Random Testing - the process of performing an initial survey in a representative sampling of units in a project.

RCRA - Resource Conservation and Recovery Act of 1976. What we commonly refer to as RCRA is an amendment to the Solid Waste Disposal Act of 1965. RCRA was amended in 1980 and most recently on November 8, 1984 by the Hazardous and Solid Waste Amendments.

Replacement - is a strategy of abatement which entails the removal of components such as windows, doors, and trim that have lead painted surfaces and installing new components free of lead paint.

SEL (Substrate Equivalent Lead Concentration) - for a direct reading XRF, the average of at least 3 XRF single cycle readings on an unpainted surface. For a spectrum analyzer, the difference between the instrument reading on a standard or reference material placed on the bare substrate and the known lead level in the standard.

Small Quantity Generator - as defined by EPA, a generator who produces less than 100 kg of hazardous waste per month (or accumulates less than 100 kg at any one time) or one who produces less than 1 kg of acutely hazardous waste per month (or accumulates less than 1 kg of acutely hazardous waste at any one time). State definitions of Small Quantity Generator may vary.

Sodium Sulfide - is a chemical used to test a paint sample qualitatively for lead; typical concentrations are from 6 to 10%. A positive test is characterized by a gray or black discoloration of the paint film cross section.

Spectrum Analyzer XRF - is a type of XRF analyzer which provides the operator with a plot of the energy and intensity of both "K" and "L" x-rays, as well as a calculated lead concentration.

Storage - the holding of hazardous waste for a temporary period, at the end of which the hazardous waste is treated, disposed or, or stored elsewhere.

Substrate - a surface upon which paint or varnish has been or may be applied. Examples of substrates include wood, plaster, metal, and drywall. Substrates may contain lead absorbed from paint or from other sources.

Substrate Effect - the returning of backscattered radiation from the paint, substrate or underlying material to the XRF analyzer. This radiation when counted as lead x-rays by an XRF contributes to SEL or bias. The inspector may have to compensate for this effect when using direct reading XRF analyzers.

TCLP - Toxicity Characteristic Leaching Procedure, is one of the tests for the determinations of whether a solid waste is classified as a hazardous substance.

Transporter - any person engaged in the off-site transportation of hazardous waste within the United States, by air, rail, highway, or water, if such transportation requires a manifest under 40 CFR Part 262.

Treatment - any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize it, or render it non-hazardous or less hazardous, or to recover it, make it safer to transport, store or dispose of, or amenable for recovery, storage, or volume reduction.

TSD - acronym for treatment, storage, or disposal hazardous waste facility.

TSP - acronym for trisodium phosphate.

XRF Analyzer - an instrument which estimates lead concentration in milligrams per square centimeter (mg/cm^2) using the principal of x-ray fluorescence ("XRF"). Two types of XRF analyzers are used, direct readers and spectrum analyzers; the underlying principles are the same.